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STUDIES OF NEOTROPICAL COMPOSITAE–IV. *PSEUDOGNAPHALIUM LEUCOSTEGIUM*, A NEW SPECIES FROM HUEHUETENANGO, GUATEMALA, AND A NEW COMBINATION IN *CHIONOLAENA* (GNAPHALIEAE)

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ABSTRACT

A new species, **Pseudognaphalium leucostegium Pruski,** is described from Huehuetenango, Guatemala. The combination **Chionolaena stolonata (S.F. Blake) Pruski**, based on *Gnaphalium stolonatum*, is made.

KEY WORDS: Asteraceae, Central America, *Chionolaena*, Compositae, Cuchumatanes, Gnaphalieae, *Gnaphaliothamnus*, *Gnaphalium*, Guatemala, Huehuetenango, Mesoamerica, *Pseudognaphalium.*

The following taxonomic innovations in Compositae tribe Gnaphalieae are validated preliminary to the treatment of Compositae for Flora Mesoamericana. Both species treated here are white-bracted and endemic to Huehuetenango, Guatemala. Each species would fall under the umbrella of a traditionally defined *Gnaphalium* L. but differs by technical features as discussed below.

PSEUDOGNAPHALIUM LEUCOSTEGIUM Pruski, sp. nov. **TYPE: GUATEMALA. Huehuetenango:** ravine near the ruins of Zacaleu, mixed forest area near Huehuetenango, 1800 m, 5 Dec 1962, *Williams et al. 22433* (holotype: NY). Figure 1.

Plantae herbaceeae perennes 0.3+ m altae; folia linearia 1–3 cm longa 0.1–0.2 cm lata subtus sericea-tomentosa revoluta; capitulescentia paniculata-glomerulata; capitula 4–5 mm alta 2.5–4 mm lata; involucrum hemisphaericum vel campanulatum; phyllaria ca. 31 4–6-seriata alba, externa triangulari-ovata 1.8–2.5 mm longa 1.5–2.2 mm lata obtusa, interna oblanceolata vel oblonga 4–5 mm longa 0.5–1 mm lata obtusa vel rotundata; flosculi pistillati 18–23; flosculi disci 23–25, corollis 2.5–3 mm longis, styli rami truncati; cypselae ca. 0.5 mm longae; setae pappo ca. 3 mm longae.

Perennial herbs 0.3+ m tall; stems erect or ascending, several-branched distally, moderately to densely leafy, exalate, closely sericeous-tomentose, eglandular, internodes much shorter than leaves. **Leaves** sessile, linear, 1–3 cm long, 0.1–0.2 cm wide, the more distal ones strongly ascending, midrib impressed adaxially, surfaces slightly bicolorous, adaxial surface green to gray-green, eglandular and arachnoid-lanate, abaxial surface grayish, closely sericeous-tomentose, base very slightly dilated and scarcely subclasping, short-decurrent for 1–3 mm onto stem, margins entire, revolute, apex short-apiculate. **Capitulescence** of ca. 9 branches each terminated by a narrowly paniculate-glomerule, branches 10–20 cm long, glomerules 1–1.7 cm diam., held slightly above the evenly descrescent stem leaves, broadly rounded, each 5–13-capitulate. **Capitula** (immature) 4–5 mm tall, 2.5–4 mm wide, 41–48-flowered; involucre hemispherical or broadly campanulate; phyllaries ca. 31, imbricate, graduate, 4–6-seriate, outer phyllaries about ½ as long as the inner, appressed, glabrous, stereome divided, 0.5–1.5 mm long, pale greenish, lamina of each white and strongly opaque; outer phyllaries broadly triangular-ovate, 1.8–2.5 mm long, 1.5–2.2 mm wide, apex broadly obtuse, evenly grading to mid-series and inner series; mid-series phyllaries and inner phyllaries oblanceolate to oblong, 4–5 mm long, 0.5–1 mm wide, apex broadly obtuse to rounded;

Figure 1. Holotype of *Pseudognaphalium leucostegium* Pruski (*Williams et al. 22433*, NY).

receptacle ca. 1 mm diam. **Marginal florets** pistillate, 18–23, less numerous than the disk florets. **Disk florets** bisexual, 23–25; corolla (immature) 2.5–3 mm long, lobes sparsely papillose; immature styles branched within anther cylinder, branches truncate, papillose only apically. **Cypselae** (immature) and ovaries ca. 0.5 mm long, glabrous; pappus bristles ca. 3 mm long, individually deciduous, evenly thickened throughout, never clavate, terminal cells obtuse.

Distribution and ecology: *Pseudognaphalium leucostegium* was collected at about 1800 meters elevation near the Mayan ruins of Zacaleu, just outside the modern-day city of

Huehuetenango, Guatemala. *Pseudognaphalium leucostegium* appears to be endemic to the environs of Huehuetenango and is known to be in early flower in December.

Pseudognaphalium Kirp. is a segregate of *Gnaphalium* and is characterized by phyllary bases with divided (fenestrate) stereomes (Hilliard & Burtt 1981; Anderberg 1991). *Pseudognaphalium leucostegium* has fenestrated phyllary bases and is thus described in *Pseudognaphalium.* In Flora Mesoamericana I recognize 19 species of *Pseudognaphalium*, with *Gnaphalium polycaulon* Pers. being the sole species retained in *Gnaphalium* s. str. *Pseudognaphalium leucostegium*, the epithet of which alludes to the white lamina of the phyllaries, is part of a species group (including undescribed Mexican species) that is anomalous in *Pseudognaphalium* (Guy Nesom, pers. comm.) by having fewer pistillate florets than bisexual disk florets. In this sexual ratio feature, *P. leucostegium* resembles *Helichrysum* Mill. (Guy Nesom pers. comm.), a genus as traditionally defined is known only from the Old World.

By its narrow leaves and white-opaque phyllaries, *Pseudognaphalium leucostegium* among Mexican and Central American species is most similar to *P. leucocephalum* (A. Gray) Anderb. of northern Mexico and the southwestern United States. Indeed, specimens of *P. leucostegium,* originally distributed as *Gnaphalium stramineum* Kunth, were referred by Nash (1976: 172) to *G. leucocephalum* A. Gray. *Pseudognaphalium leucostegium* differs from *P. leucocephalum* (as well as from *P. stramineum* (Kunth) Anderb., which has phyllary lamina yellowish-tan to stramineous), however, by eglandular vestiture and in the pistillate to bisexual floret ratios, where the marginal pistillate florets of the new species are fewer than the bisexual disk florets. *Pseudognaphalium leucostegium* is by its white-opaque phyllaries also similar to Mexican *P. chartaceum* (Greenm.) Anderb., which differs by having broader, subclasping to clasping, glandular leaves. Occasionally, however, *P. chartaceum* has as many bisexual disk florets as marginal pistillate florets, thus approximating the sexual ratio condition found in *P. leucostegium.*

Pseudognaphalium leucostegium by white-opaque phyllaries superficially resembles *Anaphalis margaritacea* (L.) Benth. & Hook. f., which one may possibly expect to encounter planted in tropical gardens or escaping near ruins such as those from where *P. leucostegium* is described. *Anaphalis margaritacea*, however, differs by apically and abaxially (vs. solely apically) papillose style branches and pubescent (vs. glabrous) cypselae and is not known to me to occur in Mesoamerica, cultivated or otherwise.

A second white-bracted gnaphalioid species is treated below. *Chionolaena* DC. was monographed by Freire (1993) who recognized 17 typically subshrubby species. Subsequently, Nesom (2001) transferred to *Chionolaena* an additional five species, these mostly from *Gnaphaliothamnus* Kirp., which he reduced to synonymy of *Chionolaena.*

By the technical floral features of white-opaque spreading inner phyllaries coupled with capitula often with functionally staminate disk florets with purplish and papillose corolla lobes, *Gnaphalium stolonatum* S.F. Blake fits comfortably within *Chionolaena* as circumscribed by Freire (1993) and as emended by Nesom (2001). The new combination *C. stolonata* is thus proposed. Within *Chionolaena*, however, *C. stolonata* is apparently unique by occasionally producing stolons in immature plants. Among species from southern Mexico and Guatemala, *C. stolonata* appears by leaf shape most similar to *C. eleagnoides* Klatt, *C. lavandulifolia* (Kunth) Benth. & Hook. f. ex B.D. Jacks., *C. mexicana* S.E. Freire, and *C. salicifolia* (Bertol.) G.L. Nesom. *Gnaphalium stolonatum* differs from these species by the combination of smaller leaves that are often remote distally and its stalked capitulescence. Because *C. stolonata* slightly differs vegetativly from typical *Chionolaena*, I have provided a description and a photograph of it to aid in identifications.

CHIONOLAENA STOLONATA (Blake) Pruski, comb. nov. *Gnaphalium stolonatum* S.F. Blake, Brittonia 2: 341. 1937. **TYPE: GUATEMALA: Huehuetenango:** llanos of the Sierra Cuchumatanes, along trail between Huehuetenango and Soloma, 3200 m, 24 Aug 1934, *Skutch 1098* (holotype: GH, photograph in MO; isotype: LL). Figure 2.

Perennial herbs or reduced subshrubs 0.1–0.3 m tall, when immature sometimes stoloniferous; stems ascending, often few-branched from subwoody base, 1-few leafy stolons 4–6.5 cm sometimes present, upright branchlets simple below capitulescence, a somewhat densely leafy basal rosette usually also present but sometimes withered in older plants, upright stems often remotely leaved distally (leaves usually moderately ascending) or older plants with stems densely leafy proximally, exalate, arachnoid-lanate, eglandular, the surface often purplish and sometimes visible through indumentum, internodes about as long as leaves. **Leaves** sessile, oblanceolate to spatulate, 1–4.2 cm long, 0.2–0.4 cm wide, surfaces somewhat bicolorous, eglandular, adaxial surface green or gray-green, weakly arachnoid-lanose, abaxial surface griseous arachnoid-lanose, base not dilated, not obviously subclasping, usually about as broad as stem, margins not obviously decurrent onto stems, entire, narrowly revolute, apex obtuse, apiculate. **Capitulescence** narrowly corymbiform-paniculate with a single terminal stalked glomerule, glomerule 1–2 cm diam., rounded, 7–11(–20)-capitulate.

Figure 2. Topotype of *Chionolaena stolonata* (S.F. Blake) Pruski (*Molina 16441*, NY).

Capitula 5–7 mm tall, 50–100-flowered; involucre campanulate, base embedded in tomentum; phyllaries 5–7 mm long, to ca. 2 mm wide, slightly graduated with the outer ones about ½ as long as the inner ones, 4–6-seriate, glabrous or stereome sometimes loosely arachnoid-pubescent, stereome undivided, apex obtuse; outer phyllaries greenish-brown; inner ca. 3 series of phyllaries with lamina white and obviously opaque to near base; receptacle 1–1.5 mm diam. **Marginal florets** pistillate, 30–70+, about as few as the disks to more commonly many more than disks. **Disk florets** often functionally staminate, 11–25; corolla 2.5–3 mm long, cells beaded (with irregular thickenings) longitudinally, lobes purplish and papillose; anther collar elongate and usually slightly longer than the tails; ovary sterile, cylindrical, style branches minutely papillose abaxially. **Cypselae** 0.8–1 mm long, constricted at both ends, oblong-setose with elongate duplex trichomes; pappus bristles ca. 20+, to ca. 3.2 mm long, scabridulous but base and apex more or less smooth, persistent, connate basally and deciduous as a ring, apical cells obtuse to rounded.

Distribution and ecology: *Chionolaena stolonata* occurs in alpine areas from 3100–4000 meters elevation. This species is endemic to the Sierra Cuchumatanes in Huehuetenango, Guatemala (Nash, 1976), and is not known to me to occur at similar elevations on any of the relatively nearby volcanoes. *Chionolaena stolonata* has been collected in flower in January, March, and August.

Figure 2. Topotype of *Chionolaena stolonata* (S.F. Blake) Pruski (*Molina 16441*, NY).

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LITERATURE CITED

Anderberg, A.A. 1991. Taxonomy and phylogeny of the tribe Gnaphalieae (Asteraceae). Opera Bot. 104: 1–195.

Freire, S.E. 1993. A revision of *Chionolaena* (Compositae, Gnaphalieae). Ann. Missouri Bot. Gard. 80: 397–438.

Hilliard, O.M. and B.L. Burtt. 1981. Some generic concepts in Compositae-Gnaphaliinae. Bot. J. Linn. Soc. 82: 181–232.

Nash, D.L. 1976. Flora of Guatemala: tribe IV. Inuleae. Fieldiana, Bot. 24(12): 164–181, 496–502.

Nesom, G.L. 2001. New combinations in *Chionolaena* (Asteraceae: Gnaphalieae). Sida 19: 849–852.